



VANILLA HIRSUTA (ORCHIDACEAE), A NEW SPECIES FROM PAPUA NEW GUINEA

Mark A. Clements & David L. Jones

Centre for Plant Biodiversity Research, Australian National Herbarium, G.P.O. Box 1600, Canberra,
A.C.T., AUSTRALIA, 2601

ABSTRACT:

Vanilla hirsuta (Orchidaceae), from Papua New Guinea, is described as new. A key to the species is provided.

Three species of *Vanilla* Jackson are known from New Guinea, all being described by Schlechter (1911) from collections he made in what was then known as German New Guinea. A new species, collected by one of us (MAC) on the Schlechter-Lauterbach Commemorative Expedition, 1989-90 (Clements and Ziesing 1990) is described here.

MATERIALS AND METHODS

The description of the new species was made from a range of sources including fresh living plants, spirit preserved specimens stored in BANG mix (65 % ethanol, 5 % glycerol 30% water), floral dissection cards and 35 mm colour transparencies of flowers and plants. Specimens were examined from the following herbaria: BM, BRI, CANB, CBG, K and MEL. Herbarium abbreviations follow Holmgren *et al.* (1990). Unless otherwise indicated, all types (or photographs thereof) and collections cited have been seen.

KEY TO PAPUA NEW GUINEA SPECIES OF VANILLA

1. Leaves sessile, tepals narrow, not imbricate at the base, labellum distinctly trilobed, hirsute *V. hirsuta*
- 1a. Leaves petiolate, tepals broad, imbricate at the base, labellum entire or obscurely trilobed, glabrous 2
2. Leaves to 35 cm long, racemes to 30 cm *V. wariensis* Schltr.
- 2a. Leaves less than 30 cm long, racemes to 10 cm long 3
3. Leaves to 11 cm wide, racemes to 10 cm long, labellum margins irregularly erose *V. kempteriana* Schltr.
- 3a. Leaves to 7 cm wide, racemes to 5 cm long, labellum margins undulate *V. kaniensis* Schltr.

TAXONOMY

Vanilla hirsuta M.A. Clem. et D.L. Jones, *spec. nov.*

affinis *V. kaniensis* Schltr. sed tepalibus angustis, late effusis, ad basin vix imbricatis; labello distincte trilobato, lobis lateralibus et medio erosis, pagina proximali dense hirsuta, callo tumore medio papillato, striis pluribus ad apicem extensis, et columnae pagina antica hirsuta, differt.

TYPE: cultivated at Australian National Botanic Gardens, Australian Capital Territory, Canberra, 6 Jul. 1995, M.A. Clements (Holotype CANB; Isotype NCBG). PROV-ENANCE: plant originally collected near Garassa, Morobe Province, Papua New Guinea, 400 m, 11 Apr. 1990, M.A. Clements 6742, P. Ziesing, D. Benzing, E. Dauncey, A. Kairo and O. Simeon.

Plant climbing. **Stems** about 1 cm across with internodes up to 12 cm long, producing a leaf and an adventitious root at each node. **Leaves** sessile, lanceolate, 10-20 cm x 2.5-3.5 cm, thick, fleshy, dark green; apex attenuate, often recurved. **Racemes** axillary, to 5 cm long, green; fleshy, 5 to c. 12-flowered. **Floral bracts** ovate-lanceolate, 10-20 mm x 7-9 mm, acuminate to spreading. **Pedicels** and ovary, 3-4 cm long. **Flowers** c. 7 cm across, opening widely; tepals fleshy, pale green; labellum greenish-white, yellowish towards the centre. **Dorsal sepal** narrowly elliptical-lanceolate, tapered to a narrow linear-oblong base, 6-7 cm x 1.1-1.3 cm, obliquely erect; apex subacute. **Lateral sepals** narrowly elliptical-lanceolate, tapered to a narrow linear-oblong base, 6-7 cm x 1.1-1.3 cm, obliquely deflexed, widely di-

vergent; apex subacute. **Petals** oblong-elliptical, 5-5.6 cm x 8-10 mm, porrect to spreading; apex subobtuse. **Labellum** porrect, 4.5-5 cm x 20-24 mm when flattened, tubular, the dorsal margins enclosing the column, the anterior margins flared; basal 1.5 cm adnate to the anterior surface of the column forming a tube, the internal surface densely hirsute, these hairs extending onto the proximal surface of the lamina; lamina roughly obovate when flattened, distinctly three-lobed, the anterior surface with numerous narrow, sinuate, shallow, longitudinal ridges; lateral lobes c. 23 mm x 7 mm, the anterior margins rounded and shortly erose; mid-lobe oblong-ovate, c. 10 mm x 8 mm, the margins shortly to deeply erose. Callus prominently veined, thin, smooth, with a median papillate swelling, c. 4 mm x 4 mm, consisting of imbricate, cuneate lamellae with an erose dorsal margin, several obscure dark lines extending to the apex. **Column** porrect from the end of the ovary, narrowly linear, semiterete, 3-3.3 cm x c. 3 mm, hirsute medially on anterior surface, incurved slightly and gibbous near the apex; staminode extending prominently above the anther and laterally winged. **Anther** c. obovoid, c. 1.6 mm x 2.2 mm. **Pollinia** ovoid, 0.8 mm across, light yellow, mealy. **Stigma** c. 1.8 mm across. **Rostellum** ovate quadrate, c. 2 mm x 2 mm. **Cap-sule** not seen. **Fig. 9 & Plate 10B.**

FLOWERING PERIOD: June and July in cultivation.

DISTRIBUTION: Papua New Guinea where known with certainty only from the type locality.

HABITAT: Climbing on trees in rainforest in small lateral gullies. Altitude: c. 400 m.



RECOGNITION: *Vanilla hirsuta* is characterised by the following combination of features; lanceolate leaves with an attenuate apex; narrow, widely spreading tepals which hardly overlap at the base; distinctly trilobed labellum with erose margins on the lateral lobes and mid-lobe; proximal surface of the labellum densely hirsute; labellum callus with a median, papillate swelling, several obscure dark lines extending to the apex; and, column with hirsute anterior surface.

AFFINITIES: The three species described by Schlechter (1911) all differ markedly from the new species by having broad segments, imbricate at the base, a broadly obovate-cuneate, obscurely lobed, glabrous labellum and a glabrous column.

CONSERVATION STATUS: Not known.

ETYMOLOGY: Derived from the Latin, *hirsutus*, hairy, in reference to the hairy proximal surface of the labellum and column.

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Plate 10A. *Vanilla planifolia*, cultivated at the Royal Botanic Gardens, Kew, England.



Plate 10B. *Vanilla hirsuta*.

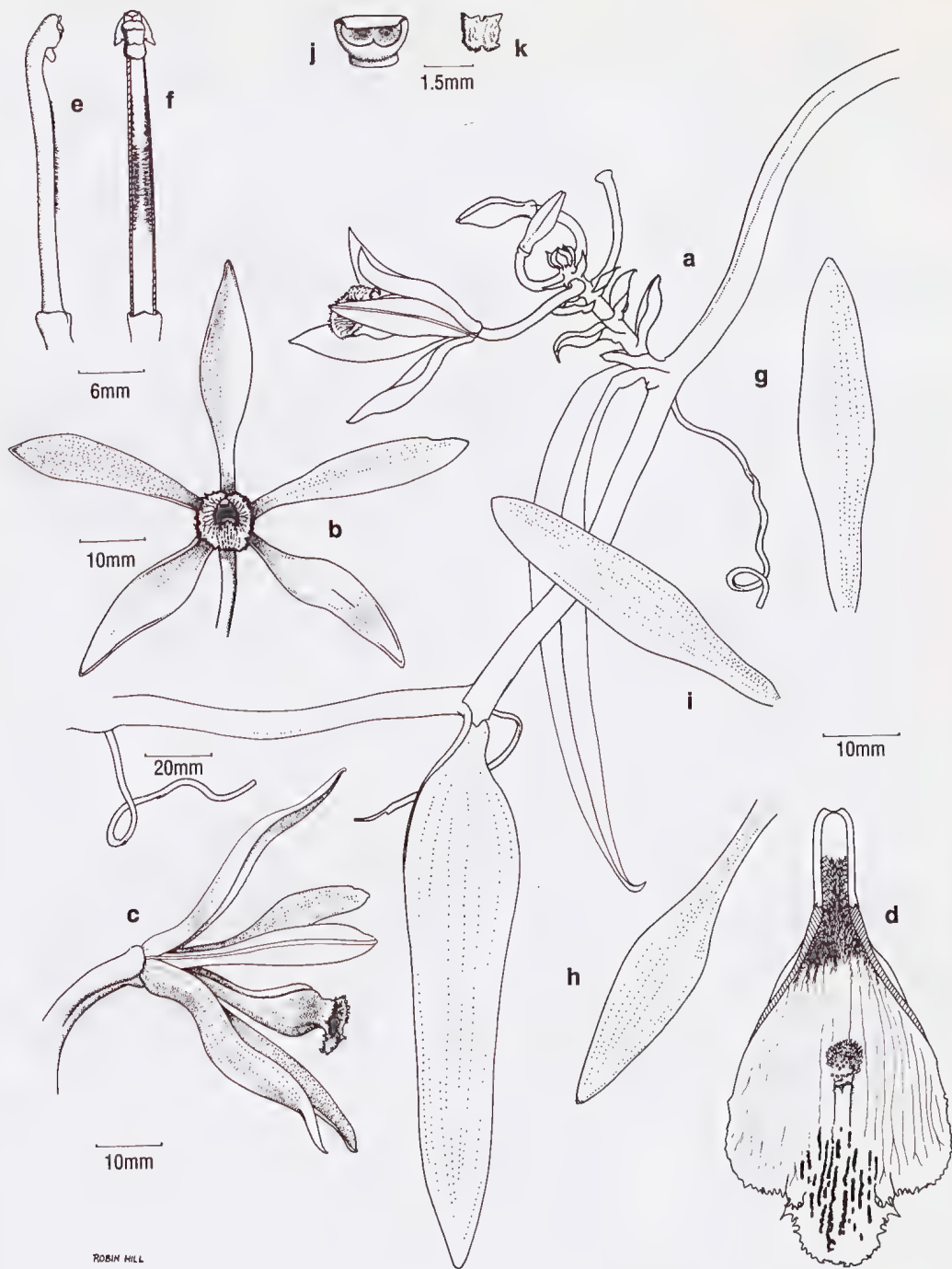


Figure 9. *Vanilla hirsuta*, Morobe Province, near Garassa, Papua New Guinea, Clements 6631: **a.** plant: **b.** flower from front: **c.** flower from side: **d.** labellum flattened: **e.** column from side: **f.** column from front: **g.** dorsal sepal: **h.** lateral sepal: **i.** petal: **j.** anther: **k.** pollinia.

Plate 10B. *Vanilla hirsuta*, Clements 6631

